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ABSTRACT

The nature of human interaction, particularly within the context of family, is necessarily complex due to the multitude of characteristics which influence the individual's intention toward the other, as well as the characteristics and effects of interaction as a function of the co-construction of meaning between interactants. This paper delineates two arguments, philosophical and pragmatic, which demonstrate the usefulness of methodological triangulation in studying human (family) interaction. The philosophical argument specified the modes of logic, inquiry, and explanation used in research and offers a syncretization of these modes. The pragmatic argument specifies the relationship between theory, method, and the object of inquiry and demonstrates how methodological triangulation subsumes alternative perspectives on communication phenomena. (Contains 14 references.) (Author/RS)

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Syncretism of Qualitative and Quantitative Research Paradigms:

The Case for Methodological Triangulation

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Abstract

The nature of human interaction, particularly within the context of family, is necessarily complex due to the multitude of characteristics which influence the individual's intention toward the other, as well as the characteristics and effects of interaction as a function of the co-construction of meaning between interactants. This essay delineates two arguments, philosophical and pragmatic, which demonstrate the usefulness of methodological triangulation in studying human (family) interaction. The philosophical argument specifies the modes of logic, inquiry, and explanation used in research and offers a syncretization of these modes. The pragmatic argument specifies the relationship between theory, method, and the object of inquiry and demonstrates how methodological triangulation subsumes alternative perspectives on communication phenomena.

Syncretism of Qualitative and Quantitative Research Paradigms: The Case for Methodological Triangulation

The methods or tools used by scholars to study phenomena are dependent upon philosophical assumptions regarding how scholars come to know (episteme) about reality (ontos). Thus, the system of philosophical assumptions has been termed methodology, and the various systems are referred to as methodological paradigms. Within any domain of study, such as the domain of human interaction which is the object of study for the field of speech communication, certain types of phenomena are attended. That domain may determine the necessary or predominant methodological paradigm. However, in the human sciences, in which speech communication falls, the characteristics of the phenomena observed are of different types or natures, depending on perspective, thus demanding multi-methodological approaches. Such, in fact, has been the history of our discipline. The methods used to study human communicative phenomena have varied because the relationships between the factors which determine the observable characteristics are extremely complex.

In order to understand and make sense of the distinctions between methodological paradigms, the scholar must understand the nature of the characteristics of the phenomena being examined and the process of knowing. To

that end, the scholar must understand the nature of phenomena and the relationship between phenomena (the object of observation) and the observer (the subject knowing). Also, the scholar must understand the differences in modes of logic, such as inductive, deductive, and abductive modes. These modes of logic are contingent upon epistemological and ontological assumptions and determine modes of inquiry and explanation (see Poole and McPhee, 1994, for a discussion of these modes). Methodological triangulation involves a broad conceptualization of ontos and a tripartite dialectic of episteme.

In order to describe the bases and foundations for methodological triangulation two approaches must be used. First, the philosophical argument must be laid out, as briefly done in the above paragraphs. This step involves defining terms such as phenomena, and the modes of logic, inquiry and explanation. The second step involves setting forth a pragmatic argument based on the uses of methodology within the social sciences in general and speech communication in particular. The pragmatic argument specifies the relationship between theory and methodology, the limitations of theory and methodological choices and how these limitations may be overcome by methodological triangulation. It is my belief that the current and long-lasting debate regarding methodology within the field of speech communication, and indeed in the social sciences, stems from either failed attempts at resolving issues from the philosophical argument (the first step), or

from a lack of attendance to the philosophical argument. Resolving these issues may be outside of the scope of a short essay, however a brief outline may assist the scholar in understanding deeper issues in the pragmatic argument.

In this essay, I will offer a brief outline of the philosophical argument by defining the term phenomena and discussing the relationship of the observer to phenomena. Then I will briefly describe the modes of logic, inquiry and explanation in reference to the above definitions. Finally, I will describe briefly how methodological triangulation involves a broad ontological conceptualization and a tripartite epistemological dialectic.

The second part of the essay will offer the pragmatic argument which describes the relationship between theory and method and how examples of current research in the field of speech communication demonstrate this relationship. Next, I will describe the limitations of particular methodological choices within the field of speech communication and how these limitations may be overcome through methodological triangulation. To do this, I will survey literature regarding methodological triangulation and show how methodological triangulation accomplishes the task of integrating the modes of logic, inquiry and explanation. Finally, I will offer a critique of the weaknesses of methodological triangulation.

Before I begin the project outlined above, it is important to distinguish between method and methodology and between method triangulation and methodological triangulation. A research method is the system of steps taken to study a particular phenomenon or set of phenomena. A method involves the use of tools. For example, a quantitative method involving comparison of independent and dependent variables, such as in an Analysis of Variance, may use a tool such as a survey instrument in order to collect the data for the analysis. A research methodology is the system of assumptions which determines appropriate methods. A methodology, such as logical positivism makes assumptions about reality and our knowing of that reality. Logical positivism, for example, assumes that reality is that which exists independent of the subject's knowing, thus knowing can be performed by independent researchers through direct observation of the object. This assumption determines the methods of the logical-positivist school in that, for example, the objects can be distinguished by characteristics, and the ability to distinguish between objects, or the characteristics of objects, allows for the ability to count them.

Method triangulation involves using variously complementary, symmetrical or parallel systems of steps to observe and study a phenomenon or set of phenomena. The purpose of doing such may be to obtain different views of a phenomenon in order to better understand it. Method triangulation does not

necessarily entail methodological triangulation. An example of this might be that in physics, the characteristics of light include that of particles and waves, simultaneously. However, the particle and wave characteristics of light cannot be directly observed at the same time (the indeterminacy principle). Therefore, alternate methods are employed to observe the various characteristics of light. But, the alternate methods for observing light both fall within the same methodological paradigm.

Methodological triangulation involves employing variously complementary, symmetrical or parallel assumptive systems, or perspectives, in order to get alternate views of the phenomena in question. This approach makes more sense in the social sciences as opposed to the physical sciences because the phenomena of human interaction is necessarily more complex (see the following philosophical argument). Methodological triangulation necessarily involves the use of various methods because, as described above, methods are determined by methodology. With these distinctions between method and methodology in mind, I shall proceed with the arguments regarding methodological triangulation in the social sciences, depending of course on the phenomena to be observed.

The Philosophical Argument

The process of inquiry necessarily involves an object of knowing. Inquiry asks a question, such as what, how and why, and therefore requires something to

be known. The process of inquiry also necessarily involves a knower because inquiry is an act which requires intention toward something observed, and intention requires will. Thus inquiry necessitates a relationship between a knower and an intended object of the inquiry. The condition of the relationship specifies that characteristics of the knower include the ability to know and that characteristics of the object of inquiry include the ability to be known.

Scientific inquiry in the social sciences places the burden of knowing on the scholar/researcher. The researcher attempts to describe, explain and predict relationships between objects. This is accomplished through observation of phenomena and comparison of those observations to what is known or through creation of explanatory models. The term phenomena refers to the appearances, or characteristics, of objects observed, not the objects-in-themselves (see Alexander, 1988; Moser & vander Nat, 1987). How the researcher comes to make assertions about phenomena and relationships between objects of observation is a function of reasoning. Two types or modes of reasoning have been most prevalent in scientific inquiry: inductive and deductive.

Inductive reasoning argues from specific instances of phenomena to a general conclusion about the probable characteristics of that phenomena, or from the particular to the universal. In abstract terms, the formula of induction is of the sort: *case* + *result* = *rule*. Induction occurs in methods where an orientation to the

phenomena occurs as the first step. The phenomena in natural use, such as a conversational act, is the case. How that act is manifested (the inherent structure, orderliness, or relations between acts) in a natural setting is the result. The rule is applied in the analysis of the use of the act. For example, a turn at talk is the phenomena being observed, the case. In natural settings of conversation, turns-at-talk occur in sequential relationship to each other. The rule thus formulated states that two interactants in a conversation take turns-at-talk as a way of organizing the interaction in orderly recognizable ways. As in this example, the ethnomethodological and conversation analytic approaches typically employ inductive logic.

Deductive logic begins with a general premise believed to be true, typically stated as a tautology, and derives certain conclusions about specific instances which fall within the domain of the general premise, or from the general to the particular. In abstract terms, the formula of deduction is of the sort: *rule* + *case* = *result*. Deduction occurs in methods where precedence is given to what is already known about the domain of inquiry. So, the first step in a methodology employing deductive logic is to examine what is already known (theory) about a type or class of phenomena in order to specify a working premise (hypothesis), and to apply that knowledge to a set of cases within that domain in order to predict a result. If the expected result does not occur, then critique of the existing knowledge or the

method employed to test cases is produced. The theory is either verified or denied. As in this example, logical-positivist approaches typically employ deductive logic.

Scientific inquiry has moved from these two modes of logic. In the process of scientific inquiry, the assessment of what constitutes the appropriate starting point determines which of these two modes of logic will be privileged. Typically, in qualitative studies, hypotheses are developed from the observable characteristics of the data, then these hypotheses are verified through explication to arrive at a proposition about the data. It is in this sense of orientation to the phenomena that induction is privileged in qualitative studies. Most often in quantitative studies, hypotheses are developed from what is known (theorized) about the domain in which particular phenomena appears to be entailed. The phenomena is then compared using a truth condition method to what is known. Explanation and conclusion follow from the comparison. It is in this sense of orientation to the theory that deduction is privileged in quantitative studies.

However, the distinctions between quantitative and qualitative methodologies in terms of the mode of logic privileged are ambiguous. The difficulties inherent in qualitative studies by privileging induction involve being truly unmotivated in observations of the data. Scholars read and learn how to do analysis before they do analysis. As Rose (1990) posits, it is difficult if not impossible for the ethnographer to observe culture without first having learned

about the procedures of observation, though he proposes one attempt that task. In a sense, the issue is whether an observer can observe in a systematic way unknowingly and unmotivated by the results that observer hopes to find. Similarly, the researcher must have some perceptions about the domain of study in order to formulate the research question.

The difficulties inherent in quantitative studies by privileging deduction involve the paradox of beginning with an assumed true premise which is tested for the possibility of being untrue. If the premise is indeed untrue, then the methods employed to test it as true may be inappropriate. But more importantly, some observation of phenomena had to occur before a question could be raised to be tested. In other words, all scientific inquiry necessitates an object of inquiry as a preliminary condition. Therefore, observation of phenomena precedes selection of explanatory theory to which to test a particular sample of the phenomena against.

Determining the proper starting point, thus choosing methodology by mode of logic when induction and deduction are the only choices (in an either/or sense), is problematic. Considering the epistemological issues of how we come to know muddles the choice between modes unless we consider another alternative mode. Abductive reasoning as a mode of logic was first posited by C. S. Peirce (Lanigan, 1992).

Abductive reasoning begins with a general premise regarding the possibility of a case. Abduction then explicates the structure or relationships inherent in the general premise and applies that structure to the case. In abstract terms, the formula of abduction is of the sort: *rule + result = case*. Abduction occurs as knowing wherein the possibility of perception of phenomena is a necessary condition for observation of a case to occur. The relationships or structure, as possibilized by the rule, allow for the case to be observed. Pierce (1931-35, cited in Jones, 1975) argued that perceptual judgment of a phenomena does not require distinct acts of inference, as in induction and deduction, but rather is a continuous act which is both determined by the results of prior processes of judgment and creates the possibility of further perceptual judgments. However, the process itself is not available to the determination of a starting or ending point. Thus, knowledge, for Pierce, depends upon "... memories of the past and expectations of the future that make it possible for the understanding to construct the ordinary objects of ordinary experience 'from slight data'" (Jones, 1975, p. 270-271).

The abductive reasoning mode thus resolves the issue of a methodological starting point by specifying episteme as a continuous process. However, a starting point might be a practical necessity when conducting research. For example, at what point does the scholar stop reading and start observing phenomena, or vice-versa, to make meaning out of what was read or observed? Some thought or

idea must have motivated the researcher to observe a given phenomena or to test a specific theory. In other words, what motivated the researcher to attend to particular phenomena and not others? I propose that the answer to the dilemma of a methodological starting point requires two parts. First, the researcher must be mindful that he or she cannot enter into an observation cold and thus must remain both aware and critical of the antecedents (past experiences, knowledge) which precipitated the decision to attend to particular phenomena. Second, the researcher must orient to the phenomena to ground the expectation of adherence (truth condition) to the antecedents. In a sense, triangulation of inductive and deductive modes of logic best approximates, systematically, abductive reasoning while allowing for a starting point which is a practical necessity for doing research.

Within social scientific inquiry, similar distinctions have been made between modes of inquiry and explanation. Poole and McPhee (1994) suggest that there are three modes of inquiry and three modes of explanation. They delineate the modes of inquiry as such: (a) hypothetico-deductive, (b) modeling, and (c) grounded theory. Hypothetico-deductive mode starts with theory. A hypothesis is generated from the theory and tested. Modeling involves the ". . . depiction of how theory generates the observed data in a specific context" (Poole & McPhee, p. 49). Grounded theory involves an orientation to the phenomena from which theoretical propositions are made. These modes of inquiry are related to the modes of logic in

that the hypothetico-deductive mode of inquiry privileges deductive logic, grounded theory privileges inductive logic, and modeling uses a combination of the two modes of logic.

Poole and McPhee (1994) delineate the three modes of explanation as: (a) causal explanations, (b) conventional explanations, and (c) dialectical explanations. The three modes of explanation can be distinguished by the assumptions regarding the relationship between the knower and the known, how the explanation is produced and evaluated, and what point of reference is privileged. Causal explanations privilege the researcher as an independent, objective observer. Conventional explanations privilege the subject, but assume that the researcher and the subject of research are independent. Dialectical explanations privilege the subject but do not assume independence of the researcher and the subject of research.

As suggested above, each of these modes of logic, inquiry and explanation taken alone place severe limitations on how the researcher can know that which he or she observes. I propose methodological triangulation as a means for overcoming those limitations. To accomplish this task of triangulation requires a broad conceptualization of ontology and a tripartite dialectic of epistemology.

According to Smith, the current ontological view of human communication is that it is "marvelously complex" (1988, p. 316). Part of this complexity stems

from the fact that individuals have free will and thus can choose which acts to engage in. Schrag (1986) argues that discourse is both for someone and by someone. This argument implies that communication is intentional. If individuals are unique in their experience, as is implied by the term individual, then the process of communication, by which meaning intended by communicators and co-constructed between individuals in relationship, is necessarily complex. Thus the characteristics of phenomena of communication are multi-faceted, involving memories, past experiences and expectations toward the future as well as the situational constraints of the present process of communication.

Accessing these multi-faceted characteristics of communication requires multi-methodological approaches. As described above, social scientific inquiry has attempted to describe, explain and predict relationships between phenomena through a variety of modes. Perhaps a more appropriate approach would be to take the multi-faceted nature of social phenomena into consideration and apply a combination of modes. This approach would require syncretism of theoretical assumptions about: (a) the relationship between the knower and the known, (b) the relationship between what is knowable and what is knowing, and (c) what is the proper and practical starting point of inquiry.

How researchers in the field of speech communication work out these issues of epistemology and ontology in research at the practical level is described below.

The Pragmatic Argument

The debate regarding the appropriate modes of inquiry in the field of speech communication has been debated for over two decades (Berger, 1991). The debate continued recently in a panel discussion[1] at the 1993 SCA convention in Miami Beach, Florida. Although the panelists were cordial and respectful toward each other, it was obvious to me that their was a great chasm between the panelists that resembled the distinctions in mode as described in the preceding argument. From my observation, little attention was paid to the possibility of methodological triangulation or to a deeper epistemological dialectic which might allow for triangulation in research in speech communication. In fact, little attention has been paid to methodological triangulation in journals or textbooks which discuss available methods and methodology. I suspect the reason for this lack has to do with the inherent complexities and subsequent weaknesses of triangulation (which I will discuss below). Another reason for this lack may be due to the relationship between theory and method, and that theory in the discipline of speech communication has not sufficiently attended to the epistemological and ontological issues outlined above.

Recent scholarship regarding theory and methodology has suggested that the differing views towards communication dictate that a multiplicity of methods be available (see Bochner, Cissna, & Garko, 1991; Polkinghorne, 1983). Indeed, the particular type of communicative phenomena being attended to and the theories used to explain them, may specify the methods used to research those phenomena. Duck and Montgomery (1991) argue that the object of inquiry, theory about the domain of objects in which the object of inquiry is entailed, and the method used to perform the inquiry are interdependent.

Theory is a "... set of interrelated concepts that present a systematic view of phenomena by specifying relations for the purpose of explaining and predicting the phenomena" (Tucker, Weaver, & Berryman-Fink, 1981). This definition of theory implies the inter-relatedness of theory, method and the object of inquiry. Method is the process of viewing systematically the object of inquiry, thus building theory. For example, if the phenomena to be studied is family conflict, then the particular characteristics of the phenomena must be determined. In this example, characteristics of family conflict could include, but are not limited to: (a) the "doing" of conflict through interaction, (b) the conditions which contribute to conflict, such as the structure of the family, personality variables of the family members, and the performance or nonperformance of expected roles within the family, and (c) the meanings of family and family conflict that family members

hold. Each of these sets (a, b, c) of characteristics of family conflict may demand different methodological approaches. The first set (a) may require conversation analytic or interaction oriented (grounded) modes of inquiry. The second set (b) may require hypothetico-deductive or modeling modes of inquiry because characteristics such as family structure and roles are theorized to exist within families and affect interaction. The third set (c) may require phenomenological approaches involving interview protocols in order to access individual meaning within the context of family conflict.

If theory, method and the object of inquiry are interdependent, then methodological triangulation may be the most effective means for obtaining a fuller understanding of complex, multi-faceted phenomena. Herein lies the weakness of triangulation. The researcher has to be very specific about the characteristics of the object of observation in order to determine which mode best serves the purpose of the inquiry. This limitation exists for any methodology, but in the case of triangulation, the problem is compounded by attempting to syncretize possibly contradictory results. This problem of syncretization is not an issue for single-methodology approaches. Therefore, the researcher has to be aware of how the different approaches interact with each other in reference to the particular phenomena to be examined.

Conclusion

According to Denzin, "No single method is always superior. Each has its own special strengths, and weaknesses. . . . " Researchers should ". . . approach their problems with all relevant and appropriate methods, to the strategy of methodological triangulation" (1970, p. 471). Given that human interaction is complex by its very nature, I believe this suggestion is well grounded. Given the relationships between how we come to know and characteristics of the knowable to which we, as researchers attend, approaching inquiry from all possible directions can help in gaining that fuller understanding. This attitude is particularly useful when applied to the field of speech communication where the process of communication is concurrently the object of study and the means by which study is both conducted and presented.

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Footnotes

[1] The panel: Epistemological, ontological and axiological foundations of theory building: A socio-cultural approach, (Program item 1204, p. 55), included researchers who have taken different methodological approaches to their research. The purpose of the panel was two-fold: (a) to continue the methodological debate, and (b) to promote a new text (to be published by Lawrence Erlbaum) in which this panel included the authors of the articles.